



A BI-MONTHLY PUBLIC HEALTH NEWSLETTER OF THE METROPOLITAN HEALTH DEPARTMENT OF NASHVILLE AND DAVIDSON COUNTY. TENNESSEE

Volume 5, Number 1 ISSN - 1009 - 7423 Special Edition/January 2001

Bureau of Communicable Disease Control 2001 Creating New Partnerships with the Nashville Community

Editor's Note:

This issue of Public Health Watch is devoted to the newly created Bureau of Communicable Disease Control. (See the July/ August 2000 issue for additional information.) Bureau staff describe the status of communicable disease control in Nashville today, identify priorities for intervention, and solicit the support of the Nashville community in reducing the incidence and impact of communicable disease in Davidson County, Tennessee.

Welcome to this special edition of Public Health Watch!

We invite you to open these pages and read on... to explore who we are, what we do, and to consider how the Bureau of Communicable Disease Control (BCDC) can work more closely with our partners in Davidson County. The BCDC was created in the spring of 2000 through Metropolitan Health Department's strategic planning process. In the face of pressing public health problems such as the syphilis epidemic, formation of the BCDC was critical to improving coordination within several communicable disease programs and better coordination of efforts with partners in the community. The BCDC includes approximately seventy staff members working in three divisions, including Notifiable Diseases/Immunization Promotion, Sexually Transmitted Disease Control, and Tuberculosis Control. And as you will see as you read further, the BCDC is involved in a host of challenging public health issues.



Control of communicable diseases is a community-wide public health

issue requiring a community-wide approach. As a bureau we are committed to improve communication and effective collaboration with our colleagues in medical practice, hospitals, laboratories, partnering agencies, and community groups. Each health care professional and each institution plays an important role, and we solicit your help in this important endeavor. Together we can make Davidson County a healthier community.

Please let us know how we are doing! Call me at 340-5655 to share your concerns, observations, and ideas. I look forward to hearing from you!

Jon Warkentin, M.D., M.P.H. Director, Bureau of Communicable Disease Control

In this Issue

Welcome to the Special Edition	1	HIV/AIDS Surveillance	12
Surveillance: The Foundation of Public Health	2	A Captive Audience	13
Bioterrorism: The Role of the Metropolitan Health Department	4	STD Free!	14
Chemical Terrorism at the Adelphia Coliseum	5	The Need for Vigilance is Crucial	15
Meningococcal Disease	7	TB Quick Facts	16
Influenza Vaccine 2000 - 2001	9	Recommendations from the American	
Old Disease/New DiseaseStill a Problem	12	Thoracic Society	17
Surveillance: A TB Management Priority	18	Tuberculosis Trials Consortium	18
UsefulWebsites	19	List of Notifiable Diseases	Insert

Surveillance

Surveillance: The Foundation of Public Health If everyone participates, everyone benefits

Catherine Seigenthaler, B.S.N.
Assistant Director, Bureau of Communicable Disease Control

"No health department, state or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring."

From a 1945 Centers for Disease Control telegraphic surveillance report form

Public health surveillance for communicable disease is a cornerstone of public health decision-making and practice. Surveillance provides crucial information for monitoring the health of the public, identifying public health problems, and triggering action to prevent further illness.

The definition of surveillance is "the ongoing and systematic collection, analysis, and interpretation of outcome specific data essential to the planning, implementation, and evaluation of public health practice. It is closely integrated with the timely dissemination of these data to those who need to know." The actual surveillance for disease is an ongoing, dynamic activity that requires frequent, sustained interaction with reporting sources.

Public health surveillance provides data about the incidence of disease in the community – data that can help raise or lower the threshold of clinical suspicion for a particular infectious disease, encouraging early detection and appropriate treatment and perhaps avoiding clinical sequelae, unnecessary treatment, and treatment for the wrong disease.

The importance of surveillance is evident in how the data are used, such as:

- ◆ Targeting intervention efforts
- ♦ Detection of epidemics
- Documenting the distribution and spread of a disease
- ♦ Feedback to the medical and lay community
- ♦ Identification of research and service needs
- Portrayal of the natural history of disease
- ♦ Evaluation of control and prevention measures

Effective public health surveillance for infectious diseases starts with the health-care provider. The Metropolitan Health Department understands and appreciates the fact that no surveillance would be possible without the unqualified support of the doctors and other health care providers in the state who file their reports, often at their expense of both time and energy. At the state level, the information is used to decide where to focus resources, to provide documented evidence when requesting funding from state and federal agencies, and to provide community and field personnel with feedback as to what is occurring in their area.

WHO IS REQUIRED TO REPORT

- ♦ Health Care Facilities
- ♦ Physicians
- Nurses
- ♦ Physician Assistants/Nurse Practitioners
- Health Officers
- Health Maintenance Organizations/Managed Care Organizations
- ♦ Laboratories
- ♦ Hospital Administrators
- ♦ School Health Officials

Physicians and other health care providers often do not report diseases to the local health department. Some providers do not know how or to whom to report diseases. Others believe reporting is voluntary. In fact, it is the law! Still other providers wonder "why bother when the lab (or hospital) is going to report anyway?" But this is often not true. While laboratory reporting is critical, not all notifiable diseases are diagnosed by laboratory criteria, and not all patients with notifiable diseases are hospitalized. In any event, laboratory reports do not provide the clinical and demographic information needed for disease control and prevention, planning, and research. For that we depend on the provider.

<u>Underreporting can distort trends, prevent the timely recognition of an outbreak, and possibly have an impact on community preventive measures or funding.</u>

In order to simplify the reporting of notifiable diseases to the Metropolitan Health Department, a central reporting telephone number has been established. The numbers below are available 24 hours a day, 365 days a year.

Central Reporting Telephone Number – (615) 340-5632 Central Fax Number – (615) 340-2114

continued on page three

Page 2 Public Health Watch Special Edition/January 2001

Surveillance

Surveillance: The Foundation of Public Health....continued from page two



PATIENT CONFIDENTIALITY

The Metropolitan Health Department has a long history of being able to maintain and protect the confidentiality of persons with communicable diseases whose names have been reported to them, a characteristic which has continued through the AIDS epidemic. The Bureau of Communicable Disease Control is committed to maintaining the highest standards of client confidentiality and view this as one of the most vital aspects of client-centered care.

WHY WE CANNOT DO IT ALONE

Communicable disease outbreaks require concerted efforts that exceed the capacity of any single physician or institution. Physicians who call us to report a notifiable disease perform a critical service. They also get something in return: a partner, with the perspective, the obligation, and the authority to determine the threat to public health and to act decisively to protect it.

For more information on communicable disease reporting, visit the Metropolitan Health Department's website: http://healthweb.nashville.org/cd-reporting.html.

References:

"The Role of Providers and Health Plans in Infectious Disease Surveillance". <u>Effective Clinical Practice</u>, September/October 1999. American Society of Internal Medicine On-line.

Istre, Gregory R., J.P. Davis and R.L. Vogt. "Disease Surveillance at the State and Local Levels". <u>Public Health Surveillance</u>: 42 – 54. 1984.

"Surveillance: The Foundation of Public Health". <u>Mississippi Morbidity Report, Mississippi State Department of Health</u>: Volume 18, Number 6, January 2000.

"Communicable Disease Control, Why Report?" Available at: http://healthweb.nashville.org/cd_reporting.html.

Page 3 Public Health Watch Special Edition/January 2001

BIOTERRORISM: THE ROLE OF THE METROPOLITAN HEALTH DEPARTMENT

Pamela Trotter, RN, M.S.N. Director, Division of Notifiable Disease Control

magine if you will, a Sunday afternoon late in the fall. Nashville is at it's prettiest. The foliage is a spectacular "riot of colors", the temperature is a mild 65 degrees with a faint breeze, the sun is shining, and the city is brimming with excitement. The Titans are undefeated thus far in the season, and a home game against the Ravens is about to begin. Thousands of eager fans pour over the bridges and off the interstates into the vicinity of the coliseum. The energy at Adelphia is palpable. Even the national television broadcasters comment on the energy level of the fans and the beauty of the setting. Within the first two plays after the noon kick-off Eddie George easily runs the ball forty yards for the first touchdown of the game. The crowd is wild.

Less than twenty miles away a plush SUV pulls up to a private hanger at the airport. An attractive young male and female in their late twenties emerge and proceed to the interior toward a chartered Cessna plane. They are met by an employee of the airport and pay cash for rental of the plane as previously negotiated. The couple loads their luggage—two medium suitcases— onto the plane, smile and enter the cabin preparing for take-off. "Just a quick getaway", they tell the employee. The plane takes off without incident at 1:00 p.m.

Adelphia Coliseum is reverberating with unbridled enthusiasm. The score at the end of the second quarter is tied. The Titans are within field goal range. No one pays any attention to the small plane overhead.

The young female works quietly and efficiently in the cabin, while her partner effortlessly banks over Adelphia for the first of several tight turns. They look at each other briefly before donning gas

masks. As the plane approaches 500 feet the female opens the window to the cabin and gently lowers a small canister over the side of the plane. She releases the canister and waits for three seconds before detonating it with a small radio-transmitter in her hand. No one notices the burst of twenty pounds of brown granules less than twenty feet above the stadium.

Al Del Greco makes the field goal. The crowd erupts. The Titans head for the locker room. The half-time entertainers head to mid-field, and the young female repeats the deployment of several more canisters before the plane heads up over East Nashville and off to a small airport near St. Louis. Within three hours of abandoning the charter, they board a 747 bound for Eastern Europe. Their identities are never known.

The Titans win the game, the happy crowds head home and on Monday, return to work. The talk at the water-coolers is about the final touchdown run by Steve McNair with seven seconds remaining against a Raven's three-point lead...another "Music City Miracle".

The Division of Notifiable Disease Control is no different. "Titan-fever" is in the air as the staff prepares for another week of monitoring a recent food-borne outbreak at a popular West-End eatery. The Director, Pamela Trotter, hopes to complete the investigation this week. However, it looks doubtful. Over four hundred individuals still need interviews to determine if their gastrointestinal symptoms were related to this week-old outbreak.

On Wednesday evening, the Infection Control Nurse at a local hospital is notified by the Emergency Room that a



young man has been admitted with flulike symptoms. While this may be the first expected case of influenza seen in Davidson County, the ER physicians are concerned with the severity of the illness. The nurse pages the Director of Notifiable Disease Control to relay this information. Assurance is given that cultures are pending. Dr. Jon Warkentin and Dr. Bailey are given an alert that flu season may be starting with a vengeance.

Thursday morning Pamela arrives at work. She checks her voice mail and is surprised to find thirteen messages awaiting her. Infection Control nurses from six of the ten local hospitals have reported similar admissions: a total of twenty-five patients admitted with flu-like symptoms: fever, muscle-aches, cough. She is beeped once again. The "Wednesday" patient has expired. Dr. Bailey, Dr. Warkentin, and Brian Todd are notified of the dramatic beginning of flu season. She recalls that the previous years were uneventful for influenza until early January. Colleagues at the Tennessee Department of Health are alerted by Metro of the situation. By nine o'clock, four more patients have arrived

continued on page five

Page 4 Public Health Watch Special Edition/January 2001

at Vanderbilt Emergency Room with symptoms ranging from mild to moderately severe.

After a conference call with Dr. Bailey, Dr. Craig at the TDH and the State Lab Director, Emergency Room physicians are advised to get serial chest X-rays on symptomatic patients as well as a variety of blood and pharyngeal cultures. Ms. Trotter decides to divide her staff up. Half will attempt to complete the foodborne investigation. The others will do some preliminary interviews by telephone with families of the "flu" patients.

By Thursday afternoon only a handful of families have been reached. Several younger patients attend the same local high school, but interestingly most patients were at or near the Titan's game the previous Sunday. Dr. Bailey and the TDH are notified of these links. Wednesday evening the Communicable Disease On-Call Nurse receives nearly seventy calls from local ER's that patients are arriving with these symptoms. While most of the cases are sent home and advised of palliative measures, many of the older victims require admission due to respiratory difficulties.

The On-Call nurse makes one critically important decisionon Thursday evening. She calls Pamela at home with the information that all of these in-house cases have x-ray evidence of mediastinal widening—an unusual finding. Pamela calls Dr. Bailey, Dr. Warkentin, and Dr. Craig at their respective homes with this news. The State Lab Director as well as the Centers for Disease Control and Prevention and the Mayor's Office of Emergency Management are notified. By ten p.m. Thursday all of the above persons assemble at Metro's Emergency Operations Center. A horrible suspicion pervades the group. The Governor is advised of the situation. He, in turn, notifies Washington.

Bioterrorism: The Role of the Metro Health Departement....continued from page four

By 1 am the Emergency Rooms are overwhelmed with patients and are put on diversion. Regional hospitals are put on alert and make plans to receive the sickest patients. By 4 am a total of ten victims have died. Metro police officers prepare to quarantine Adelphia Coliseum. The FBI arrives at 5 am and meets the officers. A thorough search of the grounds begins.

continued on page six

Chemical Terrorism at the Adelphia Coliseum

Denise Stratz, BSN, Immunization Coordinator

On September 28, 2000 the Office of Emergency Management, in conjunction with the Department of Defense and the Department of Justice, enacted a mock exercise which involved the detonation of a chemical device at the Adelphia Coliseum. The Metro Health Department, Metro Fire Department, Metro Police Department, Metro Water Department, Tennessee Emergency Management Agency, Federal Emergency Management Agency, Tennessee Department of Health, Federal Bureau of Investigation, the Mayor's office, and the local media all worked in concert to respond to this drill.

As the exercise unfolded, spectators suddenly heard a loud boom followed by a large amount of smoke being emitted from a trash can within the coliseum. Within minutes, all participants who had been exposed to the chemical had fallen to the ground moaning and writhing. Adelphia security staff was first on the scene and quickly called in the Fire Department and the Police Department to assist in what was quickly becoming an overwhelming catastrophe. The police and fire personnel arrived in their personal protective equipment in order not to succumb to the chemical involved. A secondary device had been planted where emergency vehicles were concentrated in the hopes that emergency personnel would be impacted and unable to respond to the crisis.

The Health Department officials were called to the scene to determine what chemical agent had been used in the event in order to implement appropriate medical measures. Once the chemical agent was identified, the Fire Department quickly set up several decontamination areas which acted as showers to remove the chemical from the participant's skin. Participants were then medically triaged and transported in ambulances to local hospitals for treatment and follow-up.

Why was such an exercise relevant to Nashville? Nashville is considered 32nd on the list of probable cities to have such an event occur. We have received grant funding from the Department of Defense and the Department of Justice to provide training to all pertinent personnel on biological and chemical agents and their management in the event of an act of terrorism. This grant also allowed monies for a mock event to occur. Debriefing sessions were planned to discuss any gaps that were noted at the mock event and to strategize to fill those gaps as quickly as possible. All agencies involved are committed to developing and implementing a plan, which will protect the health and welfare of Nashville's citizens.

Page 5 Public Health Watch Special Edition/January 2001

Bioterrorism: The Role of the Metro Health Departement....continued from page five

Pamela returns to Lentz at 7:30 a.m. and notifies her staff of the developments. They are informed that a lethal cluster of flu-like illnesses has hit the Nashville area. The food-borne investigation is put on hold. Only critical lab report calls will be handled in Notifiable Disease today. Additional nurses from other bureaus are summoned. Dr. Bailey, Mayor Purcell, and Brian Todd meet in the Director's Conference Room and prepare for a public notification. The Mayor notes that he was at the game in a suite that afternoon. He is immediately given a week's worth of doxycycline from clinic supplies at Lentz.

By Friday mid-morning the total number of sick individuals exceeds 600. Almost 100 have died. The Board of Education is advised by the Mayor to close the schools. Twenty of the largest gymnasiums are scheduled to be opened and manned by the local and state health departments for distribution of medication. TEMA is advised of the need for additional manpower.

Shards of the original canister are found at the 50-yard line at Adelphia. In Atlanta, two large C-130 transport planes prepare to transport 300 "push packages" from the National Stockpile containing medications and ventilators to Nashville. A 100,000 square foot staging area is set up at the American Airlines terminal at Nashville International. The military advise that no vaccine is available for mass public use. A small supply is shipped for use for "selected" individuals.

A preliminary lab report is called to Dr. Bailey at 12 noon—cultures are negative for influenza. One culture, however, appears to be growing a gram-positive bacterium. MHD's suspicions appear to be close to confirmation. The possibility of massive fatalities due to anthrax is likely—the use of a weapon of mass destruction has almost certainly occurred.

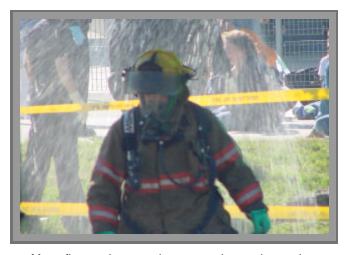


Dr. Stephanie Bailey, Dr. Jon Warkentin, and Pamela Trotter at Adelphia Coliseum



Adelphia Coliseum was the site of the mock exercise for chemical terrorism held on September 28, 2000.

Hundreds of people, both the sick and the "worried well", swarm hospital emergency rooms and clinics. The police have difficulty controlling the hysterical crowds. The National Guard



Metro fireman in protective gear at the mock terrorism exercise at Adelphia Coliseum

is summoned.

The Metropolitan Health Department staffs the school gymnasiums and dispenses antibiotics to the target population, over 100,000 people all of whom attended the game Sunday or were present in the general area surrounding the Coliseum. Documentation is maintained on each potential victim for future follow-up. All will need additional medication to be dispensed in bulk quantities in order to continue treatment for six weeks.

continued on page seven

Page 6 Public Health Watch Special Edition/January 2001

Bioterrorism: The Role of the Metro Health Departement....continued from page six



Pamela Trotter responds to a call while participating in the mock exercise.

National pharmaceutical caches are contacted and prepare to ship the additional drugs within the week. The Medical Examiner opens an emergency morgue in a warehouse on the outskirts of the city. Another emergency morgue is opened by the Health Department for disposal of hundreds of animals and pets. Patients are shipped to other regions and even other states for care, since many local health care providers were in attendance at the game and are sick or dying. Local and national media cover the story continuously and attempt to reassure the vast majority of the public that the infection is not spread person to person. The city of Nashville comes to a near standstill as the death count exceeds twenty thousand.

One month later a young couple rents a small plane at La Guardia Airport in New York City. They smile at each other as the female unpacks her suitcase and the plane heads toward Manhattan and the Thanksgiving Day Parade.

Note: This fictionalized account depicts the potential for mass casualties and social disarray that can and will occur if a bioterrorism event occurs in any locality in the nation. Fortunately, all metropolitan departments of Nashville/Davidson County have been involved in a two year effort involving the Department of Defense, the Department of Justice, the U.S. Public Health Service Corp, and the Tennessee Department of Health to prepare for such a catastrophic event. The Metropolitan Health Department's involvement has been a priority with our administration and with the Bureau of Communicable Disease Control. MHD's plan for such an event, written by the Division of Notifiable Disease Control, was submitted to the Federal Government on September 1, 2000. Measures for active surveillance continue to be enhanced in an effort to identify such an event as early as possible. On-going training for the entire MHD staff will be intensified to prepare us for mobilization in such a situation. This article illustrates the ultimate role of each of us at the Metropolitan Health Department—to identify, contain, and protect the public from biological and chemical threats.... even those involving weapons of mass destruction.

MENINGOCOCCAL DISEASE or IT'S NOT JUST ABOUT MENINGITIS

Pamela Trotter, RN, M.S.N. Director, Division of Notifiable Disease Control

While the incidence of meningococcal disease has been increasing over the past few years in the state of Tennessee, cases in Davidson County have been constant. In 1998 a total of nine cases were reported, in 1999 four cases were reported and, so far this year, seven cases have been reported. This point is made in an effort to assure the community that our region is not experiencing an increase in this particular notifiable disease, nor have we seen any links between local cases.

Meningococcal disease is a public health concern not only because of its potential for transmission, but also because of its high rate of fatality. Approximately 1 in 5 patients diagnosed with this infection will die despite the availability of effective antimicrobial therapy. Of these fatalities half will die within the first 24 hours of their illness—some within a few hours of symptom onset^{2,3}. The responsible bacterial agent, *Neisseria meningiditis*, can cause invasive disease ranging from meningitis to a ravaging septicemia⁴. It is the latter that can cause such dramatic effects as limb loss and organ failure. Fever, chills, malaise, and a characteristic petechial rash may be easily mistaken for the "flu" initially. Incubation period for this disease ranges from 1 to 10 days, most commonly less than 4 days⁴. Patients in Davidson County have presented with mild signs and symptoms such as muscle aches, headaches, and a faint rash to the more severe signs of coma with a purpural rash, an indication of fulminant disease. Less than half of our cases this year developed meningitis as a result of the infection, and there have been no meningococcal deaths in this county in the past 2 years.

continued on page eight

Page 7 Public Health Watch Special Edition/January 2001

Meningococcal Disease or It's Not Just About Meningitis....continued from page seven

When the Notifiable Disease Division receives a confirmed report of a case or is alerted to a suspect case, an immediate investigation is initiated to determine the "target" population of exposed contacts. This is one of a few rare instances where prophylactic or preventive medications will be provided to contacts. A diagnosis of "meningitis" in and of itself is not an indication for treatment of contacts, since there are a number of different types of meningitis— most of which do not warrant such treatment. The suspicion, however, of invasive *Neisseria meningiditis*, does require immediate concern and the need to assess the situation for timely contact treatment. Of the reported seven cases this year, only three required intervention from the Metropolitan Health Department.

The causative bacterium is harbored in the naso-pharyngeal mucosa of approximately 5% to 10% of the population⁵ and can be passed from person to person by direct contact such as kissing, sharing cigarettes, and drinking glasses. Thus, only household members and those individuals who have actually "shared" respiratory secretions during the 7 days before the onset of the disease are considered high-risk contacts. Children who are in day-care or afterschool-care situations with a case would also be considered for treatment, as would individuals who frequently sleep or eat in the same house. Casual contact such as sitting in a classroom or working with an affected individual would not place a person at high-risk⁴.

A diagnosis of "meningitis" in and of itself is not an indication for treatment of contacts, since there are a number of different types of meningitis--most of which do not warrant such treatment.

In the past decade, cases have increased nationally among adolescents and young adults. A recent study funded by the Centers for Disease Control and Prevention (CDC) revealed that the incidence of

meningococcal disease in college students is approximately the same as that of the general population in the same age group. However, the study also found that those students residing on campus are at slightly higher risk than those living off campus. Risk factors for contracting the disease include exposure to active and passive smoking, bar patronage, and heavy alcohol consumption, which may explain why the college freshman tends to be a higher risk.

Currently, no vaccine exists to prevent this illness in the highest risk group, infants. It is likely, though, that this will be a reality in the not-so-distant future. A polysaccharide vaccine (Menomune {Aventis Pasteur Inc.}) is available for certain high risk groups over 2 years of age who are especially susceptible to serious meningococcal infections and is highly effective against serotypes C, Y, W-135, and A, the most common types seen in the U.S. It is currently advised that college freshmen be informed by their health care providers about meningococcal disease and the benefits of vaccination^{4,6}.

Any individual seeking more information about this disease or wishing to locate those providers offering the vaccine is encouraged to call the Division of Notifiable Disease Control at 340-5632.

References:

- (1). Tennessee Department of Health, Communicable and Environmental Disease Weekly Surveillance Data 1999-2000.
- (2), van Deuren, M; Brandtzaeg, P; van Der Meer, JW; Update on meningococcal disease with emphasis on pathogenesis and clinical management. *Clinical Microbiology Reviews* 2000; 13:144-166.
- (3). Centers for Disease Control and Prevention. National Vital Statistics Reports. 1999; 47:52-54.
- (4). American Academy of Pediatrics. Meningococcal Disease. In: Pickering, LK, ed. 2000 Red Book: Report of the Committee on Infectious Diseases. 25th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2000: 396-401.
- (5). American Public Health Association. Meningococcal Meningitis. In: Chin, J, ed. *Control of Communicable Diseases Manual*. 17th ed. Washington D.C., APHA 2000: 340-345.
- (6). Harrison, LH, Dwyer DM, Maples CY, Billman, L. Risk of meningococcal infection in college students. *JAMA*. 1999: 281: 1906-2110.

Page 8 Public Health Watch Special Edition/January 2001

Influenza Vaccine 2000 – 2001

Pamela Trotter, RN, M.S.N., Director, Division of Notifiable Disease Control Catherine Seigenthaler, B.S.N., Assistant Director, Bureau of Communicable Disease Control

n July 14, the Centers for Disease Control and Prevention (CDC) reported a substantial delay in the availability of a proportion of influenza vaccine for the 2000 - 01 season and the possibility of a vaccine shortage. Since then, resolution of manufacturing problems and improved yields of the influenza A (H3N2) vaccine component have averted a shortage. Although a safe and effective influenza vaccine became available in similar quantities as last year, much of the vaccine was distributed later in the season than usual. The Metropolitan Health Department (MHD) received a partial shipment of its order in mid-November. Realizing that the remainder of the vaccine would not be shipped for another two weeks, the Immunization Management Team immediately began to prioritize the distribution and administration of the initial 2000 doses. Utilizing the guidelines of the Advisory Committee on Immunization Practices (ACIP) for this season, the vaccine was given to those individuals considered most vulnerable in the community. (See box at right.)

On November 27th, the Lentz auditorium became the venue for a massive flu clinic. Nurses, clerks, outreach workers, administrators, maintenance staff, and even the printing department came together to provide over 1,100 vaccinations the first day. All bureaus were represented in this overwhelming undertaking. At one point, the line of people seeking the vaccination snaked through the hallways of the Health Department. While waiting, patients were triaged by medical staff members in an effort to assure that the highest-



People lined up for flu vaccine at Lentz Health Center on November 27, 2000, the first day the vaccine was available to persons at highest risk.

UPDATED ACIP RECOMMENDATIONS FOR THE 2000 – 01 INFLUENZA SEASON

- Persons aged <u>></u> 65 years;
- Residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions:
- Children and adults who have chronic disorders of the pulmonary or cardiovascular systems, including asthma:
- Children and adults who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (e.g., caused by medications or human immunodeficiency virus);
- Persons aged 6 months 18 years who are receiving long-term aspirin therapy and therefore might be at risk for developing Reye syndrome after influenza; and
- Women who will be in the second or third trimester of pregnancy during the influenza season.

risk patients were served. Paperwork was also provided at this time, so that as much information as possible could be keyed into a bank of computers at the time of service. Those patients who were especially frail were able to bypass this step and were escorted to a "special needs" table where they were able to receive the vaccine without waiting. Another MHD employee, while directing parking traffic, identified a number of non-ambulatory high-risk clients needing additional assistance. These individuals were allowed to remain in their automobiles, while nurses brought the vaccine outside and administered it to them in the parking lot.

During this time, the Immunization Management Team met regularly in an effort to prepare for the arrival and distribution of the remainder of the vaccine. It was finally decided that the next shipment of 3,000 doses would be given in another mass public clinic again targeting those persons at highest risk for developing complications of influenza. This time Metropolitan Health Department employees meeting those specific criteria were included in the target population. The

continued on page ten

Page 9 Public Health Watch Special Edition/January 2001

Influenza Vaccine 2000 - 2001....continued from page nine

clerical staff of the Notifiable Disease Division, meanwhile, began to canvass large pediatric groups, nursing homes, and Metro-funded high-rise facilities for the elderly to determine their needs for the vaccine. It became evident that many of the high-rise facilities had no access to any vaccine due to cancellations of contracts and orders. The Team decided that another portion of the vaccine would go to these facilities housing large numbers of vulnerable individuals. It was additionally decided that, in view of the lack of nursing resources at these housing sites, teams of Metropolitan Health Department nurses and clerks would provide the support necessary to administer the shots. In the days preceding Christmas week, the staff worked tirelessly to meet this challenge.



Over 1,100 flu vaccinations were given on November 27, 2000.

Throughout this hectic time, the Immunization Management Team continued to assess the needs of the entire community beyond the high-risk population. After providing the Fire Department with their requested vaccine order and offering the vaccine to all other Metropolitan Health Department employees, it was decided that any remaining vaccine would be offered to the general public in an attempt to achieve "herd" immunity as flu season rapidly approached. To this end, plans to open yet another series of public flu clinics were finalized, and clinics were held again at Lentz auditorium during the week of January 3, 2001.

Numbers alone speak for the success of this extraordinary endeavor. Over 5,000 vaccinations were given by the Metropolitan Health Department including those given off-site to both homebound individuals and to inhabitants of Metro housing for the elderly. A total of 700 doses were provided to the Nashville Fire Department. Final evaluation of the project, of course, will be in surveillance numbers of influenza cases in the community. At this writing, influenza is off to a slow

Division of Notifiable Disease Control



Metro Health Department nurses provide influenza vaccine to highrisk clients at Lentz Health Center.

start here in the Nashville/Davidson County area, and a small amount of vaccine remains at Lentz, Woodbine, and East Centers for those who have not yet received the vaccination and wish to do so.

The lessons learned from this experience were many. Most important, though, is the recognition of the ability of the entire Metropolitan Health Department staff to pull together quickly and efficiently for the good of the community. Finally, the capacity to identify and prioritize the target population for initial treatment bodes well for any future situations whether they involve mass immunization campaigns, foodborne-related outbreaks,or biological-chemical emergencies.

For more information regarding the influenza vaccine, call the Metropolitan Health Department at (615) 340-5632.

Reference:

Centers for Disease Control and Prevention. Updated Recommendations from the Advisory Committee on Immunization Practices in Response to Delays in Supply of Influenza Vaccine for the 2000 – 01 Season. MMWR 2000: 49:888 – 92.

Page 10 Public Health Watch Special Edition/January 2001



Information was keyed into computers at the time patients were registered to receive flu vaccine at the Lentz Health Center.

Denise Stratz, RN, provides flu vaccine to Louise Hicks, a resident of Nashville Christian Towers on December 15, 2000 as part of the Metropolitan Health Department's outreach to Metro-funded high-rise facilities for the elderly.





Page 11 Public Health Watch Special Edition/January 2001

Division of Sexually Transmitted Disease Control

Old Disease / New Disease ... Still a Problem

Chris Freeman, Director, Division of Sexually Transmitted Disease Control

Gonorrhea and chlamydia, two of the most common sexually transmitted diseases (STDs), are still problems that need to be on the agenda of every health care provider in Davidson County.

Chlamydia cases reported to Metro Health Department in August 1999 totaled 383. In September of 1999, 207 cases of chlamydia were reported. One year later, 232 cases of chlamydia were reported for August and 157 cases for September. This reflects a downward trend; however, the number of cases should still be considered an issue that needs to be monitored on a continued basis. Providers should also continue providing education and screening to their high-risk clients.

Gonorrhea has been one of the most common diseases confronted by public health for centuries. Cases reported to Metro Health Department in August 1999 totaled 306 while 254 cases were reported in August 2000. However, a comparison of reported gonorrhea cases for September 1999 and 2000 reveals an increase from 157 to 173 cases. This data reflects the normal fluctuation that occurs with notifiable disease reporting. Some months are historically higher in number of reported cases than other months.



Reduction of the incidence of both of these diseases will occur only when effective community support and education is established and the reporting mechanism between the private sector and the public health department occurs. Adequate treatment regimens should be followed for both of these diseases and collaborative efforts to locate and treat sex partners should be discussed with all patients by both public health providers and private physicians. Assistance in partner notification services by the STD/HIV Program staff is available.

The STD/HIV Program has recently developed a new Surveillance Unit to help in the reporting of STDs. This unit interacts with the private community to assist in reporting issues and to assure that adequate treatment has been given to persons with sexually transmitted diseases. For more information, please contact Dan McEachern of the Metro Health Department at (615) 340-2139.



Poster presentation prepared by STD Free! as part of Tennessee State University's Halloween Festival 1999.

HIV/AIDS Surveillance

Brad Beasley and Mary Angel-Beckner, HIV/AIDS Surveillance

Throughout the State of Tennessee, the responsibility of accurately reporting HIV and AIDS is placed on the individual physician, and is crucial to tracking the infection rate and the incidence of AIDS here in Davidson County. Timely reporting permits early intervention regarding education and contact tracing efforts. As a back up, laboratories report values related to HIV/AIDS diagnoses, and reports are not always made in a timely manner. Further, laboratories cannot provide additional information pertinent to the case (demographics, etc.), and are not responsible for initial case reporting.

Page 12 Public Health Watch Special Edition/January 2001

Division of Sexually Transmitted Disease Control

HIV/AIDS Surveillance....continued from page twelve

Positive ELISA tests, Western Blots, low CD/4 values (<200), viral load values, and opportunistic infections are all reportable data. Positive ELISA tests combined with reactive Western Blot tests and viral load values are diagnostic of HIV infection. Low CD/4 values (<200) or diagnosis of one or more of specific opportunistic infections results in an AIDS diagnosis.

Reports should be made to the HIV Surveillance Unit at the Lentz Public Health Department. They can be made by telephone, by mail, or one of the Surveillance staff can personally visit the office to collect the information. Mailed reports should be double enveloped and marked as confidential.

The main phone number for the Surveillance Unit is 340-5695. Mary Angel-Beckner may be reached at 340-5330, and Brad Beasley may be reached at 340-5676. All physicians are asked and encouraged to contact Mary or Brad regarding questions or assistance in reporting new or existing cases.



Mary Angel-Beckner answered questions related to HIV/AIDS at Pride Festival 2000.



Brad Beasley, Roslyn Armstrong, Sonya Douglas, Richard Dotson, Cathy Seigenthaler, Tracey Hardy, Dan McEachern, and Mary Angel-Beckner staff the Metro Health Department's booth at Pride Festival 2000.

A Captive Audience "Community Partnership Helps to Combat Nashville's Syphilis Epidemic"

Catherine Seigenthaler, B.S.N., Assistant Director, Bureau of Communicable Disease Control Chris Freeman, Director, Division of Sexually Transmitted Disease Control

Nashville and Davidson County continue to wage the war against the city's syphilis epidemic. Although numbers of primary and secondary cases are dropping, the Metro Health Department's STD Program will not relax their efforts to control this sexually transmitted disease. Law enforcement is one specific area of community partnership that is critical in controlling and eliminating syphilis within Davidson County. Recent experiences in Baltimore suggest that syphilis screening and disease intervention in county jails may significantly contribute to case detection and prevention in the syphilis elimination effort.

Through community partners, Davidson County has increased the city's awareness of syphilis and the current epidemic, provided disease and prevention information to citizens within high-risk populations, and improved health care seeking behaviors of persons at risk.

One community partnership, which is critical in controlling and eventually eliminating syphilis within Davidson County, is with the Criminal Justice Center (CJC). According to Davidson County data from 1996 and 1997, 76 percent of primary and secondary syphilis cases have a record of previous arrest. Detecting and treating syphilis at the CJC will decrease the spread of disease when these individuals are released back into the community.

In November of 1999, the Metropolitan Health Department received funds from the Centers for Disease Control and Prevention (CDC) in Atlanta to initiate a jail testing and screening project at the Criminal Justice Center. This initiative was a cooperative effort among the Davidson County Sheriff's Department, Prison Health Services, the Tennessee Department of Health and Environment (including the State Laboratory), the CDC, and Metropolitan Health Department.

continued on page fourteen

Page 13 Public Health Watch Special Edition/January 2001

Division of Sexually Transmitted Disease Control

A Captive Audience....continued from page thirteen



Display at Lentz Health Center October 1999 at the launch of the National Syphilis Elimination Project.

Comparing the months of January though May 2000 to the same time period during 1999, over 58 percent of newly diagnosed cases of syphilis are being reported from the jail and the number of syphilis cases has been reduced by 28 percent.

Project staff meet monthly to identify program successes, identify barriers, and implement planning strategies to fine-tune this worthwhile project. The CDC has identified the Nashville Jail Syphilis Testing and Screening Project as one of the top three of its kind across the nation.



Members of STD Free! Faith Communities Workgroup participate in a training session at Metropolitan Interdenominational Church.

STD Free!

Tina Lester, M.S.N., Director, Community Health Action Team

STD Free! is a community-led organization started in November 1998. To date, the members of STD Free! have conducted over 150 presentations, distributed more than 10,000 condoms, and provided more than 13,000 pamphlets, brochures, and fact sheets to interested persons. This group has been successful in their

outreach efforts largely due to the community partnerships, which has helped to establish an environment receptive to syphilis awareness and prevention messages and facilitated dissemination and communication of these messages.

Four active workgroups represent different sectors of the community that participate in syphilis elimination activities. The workgroups are:

<u>Schools and Higher Education Action Group</u>: Their goal is to increase awareness about syphilis and other STDs and to provide resources to targeted educational settings in the county.

<u>Community and Social Services Workgroup</u>: The goal of this workgroup is to increase awareness and services to the geographical areas of the city where most cases of syphilis have been identified.

<u>Faith Communities Workgroup</u>: This group seeks to provide the sustainable support that is needed to decrease syphilis, STDs, and other preventable diseases.

<u>Health Care Workgroup</u>: Members of this group work to increase awareness and reporting of notifiable diseases among health care providers.

For more information about STD Free!, interested persons should contact Tina Lester, Director of the Metropolitan Health Department's Community Health Action Team, at (615) 340-5350.

Page 14 Public Health Watch Special Edition/January2001

From the Lentz Tuberculosis Control Division: "The Need for Vigilance is Crucial"

Diane Schmitt, M.S.N., GNP, Director of the Tuberculosis Control Division

The Tuberculosis (TB) Division of the Metropolitan Health Department is here to serve the people of the Davidson County community by controlling the spread of active TB disease and by preventing TB infection, latent tuberculosis infection, from developing into disease.

"... treatment and surveillance are the keys to breaking the chain of disease transmission."

To accomplish this, our staff provides the following services for those persons diagnosed with, or suspected of having active disease:

- clinical and case management services,
- medications and appropriate lab services,
- directly observed therapy (DOT) to assure compliance/completion of therapy,
- social services assessment,
- contact investigation identification of those closest to the client who
 may have been exposed to the disease.



Those with LTBI (latent tuberculosis infection) are assessed by history and chest x-ray for active disease. If drug therapy is recommended to prevent possible progression to disease, our staff provides 1) monthly medications, 2) monthly blood work for hepatic function levels, as indicated, and 3) twice weekly directly observed preventive therapy (DOPT) for children under 15 years of age.

All of the above services are provided free of charge to the clients.

TB skin test screenings are conducted within the high-risk populations of our community on a regular basis to assist in identifying those who may be infected with *M. tuberculosis*. This includes those persons in shelters or correctional facilities, those who are foreign-born from areas where TB is endemic, and those known to have HIV/AIDS.

All suspected and confirmed cases of TB are required by Tennessee State law to be reported to the local health department. Data is collected from local health care providers and laboratories, both public and private. It is analyzed for surveillance and epidemiological purposes regarding the presence and effect of TB in our community.

Our goal is to work in collaboration and cooperation with other community health providers to protect the health of those living in the Davidson County community. "The top priority remains to cure patients with active TB."

Please contact our staff with any questions or concerns regarding TB treatment at (615) 340-5650.

The Tuberculosis Control Division encounters clientele with numerous social service needs. Case management and social work staff act as advocates for TB clients in need of assistance in keeping with the Metropolitan Health Department's mission. This includes direct services, consultation, advocacy, and serving as a liaison between the client and the community in which they live.

With the approaching winter months ahead, many of the program's clients will be in need of additional support. If your agency would like to serve as a resource for assistance with clothing, housing, transportation, or any other social service related need, please contact the Lentz TB Division at 340–5650.

A special thank you is extended to the American Lung Association that continues to work in collaboration with the Tuberculosis Control Division. Their financial assistance has enabled the Tuberculosis Control Division to offer much needed incentives to enhance patient compliance.

Page 15 Public Health Watch Special Edition/January 2001

TB QUICK FACTS...

Tuberculosis (TB) remains a global threat. The World Health Organization estimates that:

- over 1/3 of the world's population is infected with TB,
- more than 8 million new cases of TB occur each year,
- approximately 3 million people in the world will die from TB disease this year.⁴

The risk that active TB will develop in a person co-infected with **TB and HIV** is about 7% to 10% *per year*. In contrast, the risk that the disease will develop in a person infected only with TB is 5% to 10% *during a lifetime*.⁵

Certain medical conditions such as diabetes and prolonged corticosteroid therapy increase the risk that TB infection will progress to TB disease.⁵

How is the Nashville/ Davidson County community affected by tuberculosis?

- The number of TB cases in Nashville for the year 2000 currently exceeds the total number of cases for the entire year of 1999.
- The case rate (cases per 100,000 population) in 1999 of those with TB disease was:
 - ... 6.4 in the U.S..
 - ... 7.0 in Tennessee,
 - ... 11.3 in Nashville Davidson County.6
- In 1999, the majority of our cases were found in:
 - ...the homeless (37%),
 - ...the foreign-born from areas where TB is endemic (23%),
 - ...those with concomitant substance abuse (40%),
 - ...those with HIV positive tests (23%).6
- In 2000, there is an additional trend toward active disease in:
 - ...the elderly (> 80 years of age),
 - ...the very young (< 4 years of age).
- Multi-drug resistant TB does exist in the Nashville area and requires vigilant treatment.

TEN BASIC GUIDES FOR THE DIAGNOSIS, TREATMENT, AND PREVENTION OF TUBERCULOSIS 1

- 1. THINK TB!
- 2. Report suspected or confirmed cases of active TB to the Metro Health Department Tuberculosis Control Division at (615) 340-5650.
- Always take a detailed TB treatment history and obtain drug-susceptibility studies on initial TB isolates.
- 4. Begin all previously untreated TB patients on at least 4 anti-TB drugs.
- 5. Provide ongoing TB care.
- 6. Give top priority to completion of treatment.
- 7. Never treat multi-drug resistant TB (MDRTB) without expert consultation.
- Consider interactions with HIV medication when prescribing anti-TB regimens for HIV-infected individuals.
- 9. Prescribe treatment for latent TB infection when appropriate.
- Decide if an alternative preventive treatment regimen for contacts of MDRTB cases is necessary.

References for pages 15 - 17

- 1. The New York City Department of Health: Tuberculosis Treatment; Vol. 18, No. 2, June 1999.
- 2. American Thoracic Society, Centers for Disease Control Joint Statement: Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection; American Journal of Respiratory and Critical Care Medicine; Vol. 1161,2000.
- 3. Missouri Epidemiologist, Volume 22, Number 3, May-June, 2000.
- 4. TB Notes 2000, U.S. Department of Health and Human Services; Centers for Disease Control and Prevention.
- 5. Core Curriculum on Tuberculosis: What the Clinician Should Know, U.S. Department of Health and Human Services; Centers for Disease Control and Prevention, Fourth Edition, 2000.
- 6. Metropolitan Davidson County Health Department, Internal Statistics, 1999.

Page 16 Public Health Watch Special Edition/January 2001

NEW RECOMMENDATIONS FROM THE AMERICAN THORACIC SOCIETY (ATS) AND THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

CHANGES FROM PRIOR RECOMMENDATIONS ON TUBERCULIN TESTING AND TREATMENT OF LATENT TUBERCULOSIS INFECTION (LTBI) ^{2,3}

Tuberculin Testing:

- Emphasis on targeted tuberculin testing among persons at high risk for recent LTBI or with clinical conditions that increase the risk for tuberculosis (TB), regardless of age; testing is discouraged among persons at lower risk.
- For patients with organ transplants and other immunosuppressed patients (e.g., persons receiving the equivalent of ≥ 15 mg/d of prednisone for 1 month or more), 5 mm of induration rather than 10 mm of induration as a cut-off level for tuberculin positivity.
- A tuberculin skin test conversion is defined as an increase of ≥ 10 mm of induration within a 2 year period, regardless of age.

New Treatment Regimens for Latent Tuberculosis Infection:

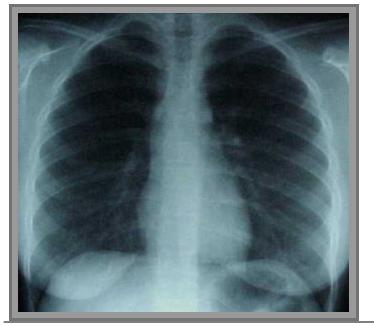
- For HIV negative persons, INH given daily for 9 months is preferred over 6 month regimens.
- For HIV positive persons, and those with fibrotic lesions on chest x-ray consistent with previous TB, INH should be given for 9 months instead of 12 months.
- For HIV negative and HIV positive persons, rifampin and pyrazinamide (PZA) should be given for 2 months.
- For HIV negative and HIV positive persons, rifampin should be given for 4 months.

Clinical and Laboratory Monitoring:

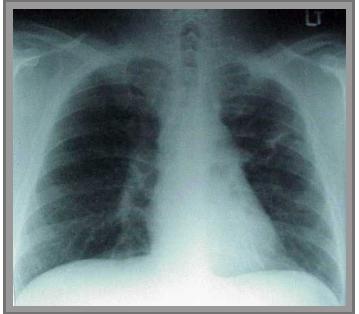
- Routine baseline and follow-up laboratory monitoring can be eliminated in most persons with LTBI, except for those with HIV infection, pregnant women (or those in the immediate post-partum period), and those with chronic liver disease or those who use alcohol regularly.
- Emphasis is on clinical monitoring for signs and symptoms of possible adverse effects, with prompt evaluation and changes in treatment, as indicated.

If you have questions regarding these recommendations, please call Tuberculosis Control Division at Lentz Health Center; (615) 340-5650.

Normal Chext X-ray



Abnormal Chest X-ray



Page 17 Public Health Watch Special Edition/January 2001

SURVEILLANCE: A TB MANAGEMENT PRIORITY

Gail Claybrooks, TB Program Coordinator

The three primary goals of TB prevention and control are to:

- Identify and treat persons who have active TB disease,
- Identify and evaluate exposed contacts, offering appropriate treatment as indicated,
- Test populations at high risk for TB infection and disease to detect infected persons, and provide treatment for Latent TB Infection (LTBI) to prevent progression to active disease.

To successfully accomplish these goals, public health workers are assigned to gather information, interview TB clients, and plan follow-up care. This ongoing process of systematic data collection, analysis, and interpretation is called surveillance, and is essential to the planning, implementation, and evaluation of public health practice. The surveillance process has a symbiotic relationship with case management, a system in which specific public health workers are assigned primary responsibility for the client. Case management staff systematically review patient progress and develop plans to address barriers to treatment adherence.

Within our local TB Control Program, a team of six staff members performs this surveillance function. Our team includes the Surveillance Program Director, four Communicable Disease Investigators, and a Register Clerk. The investigative team is responsible for conducting contact investigations and monitoring of preventive therapy clients. The Register Clerk maintains the TB case register and reports all tuberculosis collection and analysis for the Nashville/ Davidson County area to give the local tuberculosis profile.



Tuberculosis Trials Consortium

Linda Reeves-Hammock, R.N.

Did you know that the FDA has approved the first new antituberculosis medication in over 30 years? Rifapentine was given FDA approval for a one time per week medication. It is given with isoniazid (INH) in HIV negative patients. The Metro Health Department has participated in the clinical trials for the Tuberculosis Trials Consortium (TBTC) since 1996.

The TBTC is an investigator-driven collaboration in tuberculosis clinical research. It is modeled on the AIDS Clinical Trials and funded by the Division of TB Elimination through the Center for Disease Control and Prevention. It follows on the series of 21 U.S. Public Health Service tuberculosis treatment trials conducted from 1950 -1990. The TBTC mission is to conduct programmatically relevant clinical, laboratory, and epidemiological research concerning the diagnosis, clinical management, and prevention of TB infection and disease. Currently, there are 23 approved study sites in the U.S. and Canada, linked to local TB Control programs. The CDC Advisory Counsel for the Elimination of Tuberculosis reviews research agenda, and an external Data and Safety Monitoring Board oversees the execution of individual protocols.

The recent resurgence of tuberculosis has initiated the scope of activities to include shorter and intermittent regimens for treatment of TB disease and TB infection, along with optimal treatment strategies for HIV/TB, and INH resistance. In addition to the CDC review and approval process, each TBTC study is also reviewed and approved by our local Institutional Review Boards (IRB) at Vanderbilt, MHD, and Nashville Veterans Administration Research & Development.

If you are interested in learning more about the TBTC, you may contact Linda Reeves-Hammock at (615) 340-5662.

Page 18 Public Health Watch Special Edition/January 2001

Directory of Communicable Disease Websites

Useful Websites Pertaining to Communicable <u>Diseases</u>

Metropolitan Health Department of Nashville and Davidson County healthweb.nashville.org

National Foundation for Infectious Diseases www.nfid.org

Tuberculosis

http://www.cdc.gov/nchstp/tb http://www.thoracic.org

Communicable Diseases (includes sexually transmitted diseases) http://www.cdc.gov

Immunization

www.cdc.gov/nip or www.immunize.org

1998 Guidelines for Treatment of Sexually Transmitted Diseases http://www.cdc.gov/epo/MMWR/preview/ind98_rr.html

<u>Updated HIV Treatment Guidelines (1999)</u> http://www.hivatis.org/trtgdlns.html

Case Definitions (clinical and diagnostic) for All Notifiable Diseases

Download from: http://www2cdc.gov/mmwr site, click on search, and enter "Case Definitions for Infectious Conditions under Public Health Surveillance"

Page 19 Public Health Watch Special Edition/January 2001

Thank you for taking the time to read about the Bureau of Communicable Disease Control. As our partner in communicable disease control in the Nashville community, we request your feedback pertaining to the disease reporting, investigation, and follow-up process. We ask that you provide us with your ideas, concerns, or suggestions as to how we may partner with you more easily and efficiently. Please contact Cathy Seigenthaler, Assistant Director of the Bureau of Communicable Disease Control, by:

Phone: (615) 340 – 5655 Fax: (615) 340 – 2110

e-mail: cathy_seigenthaler@mhd.nashville.org

We look forward to hearing your views and working with everyone concerned about the health of Nashville's citizens.

Public Health Watch welcomes feedback, articles, letters, and suggestions. To communicate with Public Health Watch staff, please:

Telephone: (615) 340 - 2151 **Fax:** (615) 340 - 2110

E-mail: nancy_horner@mhd.nashville.org

Board of Health:

Janie E. Parmley, R.N. - Chair Henry W. Foster, Jr., M.D. - Vice-Chair Margaret L. Behm, Secretary Samuel O. Okpaku. M.D., Member William N. Hance, Member Ruth Stewart, M.D., Member

Director of Health:

Stephanie B.C. Bailey, M.D., M.S.H.S.A.

Editor:

Jianshi Huang, M.D., M.P.H., M.B.A.

Managing Editor:

Nancy Horner, R.N.

Editorial Committee:

Diana Davis, R.N., B.S.N., C.D.E. Alisa Haushalter, M.S.N., R.N. Jim Jellison, B.A. William J. Parker, B.S., R.P.E. Luwana Ralph, M.S. Burns Rogers, M.P.H. Catherine P. Seigenthaler, B.S.N. Brian Todd, A.P.R. Pamela Trotter, M.S.N., R.N.

Jon Warkentin, M.D., M.P.H.